

# Inheritance as useful notion in a usage-based construction

Andreas Bürki, Cardiff University, Wales  
buerkiA@cardiff.ac.uk



## Overview

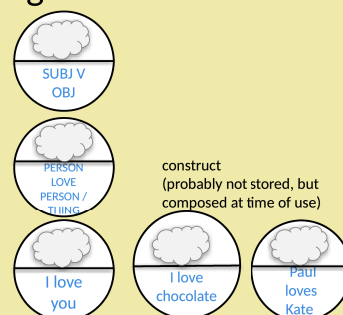
- Background
- Relations in the construction
- General observations
- Observations from the substantive end
- Conclusions

## Background

- linguistic knowledge consists entirely of constructions
- all constructions have a form & a meaning
- examples of constructions include morphemes, words, phrases, sentences, etc.
- constructions exist at different levels of schematicity
- constructions can be combined
- some words, phrases, sentences may be constructs, not constructions (= are not stored at substantive level)

## Background

constructions at different levels of schematicity



## Background

- Linguistic knowledge consists of constructions
- Constructions exist in a **structured** inventory
- Structure → links / relations

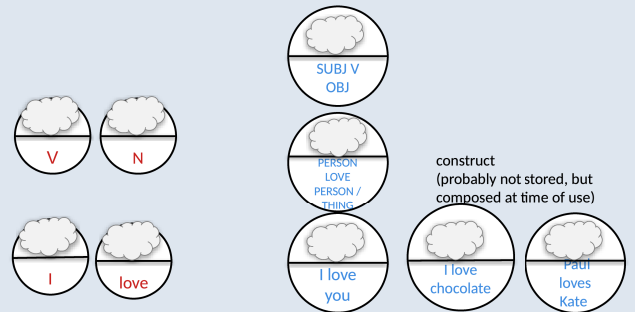
## Relations in the Construction

- "Relationships between and among constructions are captured via a **default inheritance network**. [a more substantive construction] inherits [...] from the more general, abstract [one]" (Goldberg 2013:21)
- **asymmetric** inheritance links are posited between constructions which are related both semantically and syntactically.' (Goldberg 1995:72)
- "by postulating abstraction hierarchies in which **lower levels inherit information from higher levels**, information is stored efficiently and made easily modifiable." (Goldberg, 1995:72)
- "Broad generalizations are captured by constructions that are inherited by many other constructions; subregularities are captured by positing constructions that are at various midpoints of the hierarchical network.' ... 'Exceptional patterns are captured by low-level constructions.' (Goldberg 2006:13-14)

## Relations in the Constructicon

- 'Four major types of inheritance links' (Goldberg 1995)
- Polysemy Links: 'The syntactic specifications of the central sense are inherited by the extensions.' incl. Metaphorical ones, cf. Hilpert 2014:61.
- **Instance Links:** 'when a particular construction is a special case of another construction; that is, an instance link exists between constructions iff one construction is a more fully specified version of the other.'
- Subpart Links (e.g. 'Trivially, every complex syntactic construction consists of a range of smaller phrasal constructions.' cf Hilpert 2014:63). 'the pervasiveness of these links that turns the construct-i-con into a densely woven fabric of constructions, rather than a mere hierarchy of constructions.' (Hilpert 2014:65)

## Relations in the Constructicon



## Some general observations

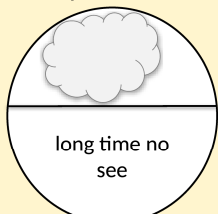
- Requirements: a formal, self-contained model vs. psychologically, acquisitionally and socially plausible explanatory model
- Inheritance: metaphor from biology, via computer science (Diessel 2023:5)
- Hierarchical and asymmetric (in the classical and dominant model)
- Between constructions (not constructions + constructs), the difficulty of telling directionality of 'inheritance' / whether it is unidirectional.
- The reality and importance of directional complexity
- Usage occurs at the substantive level, schematisations are inferred

## Some general observations

- Acquisition research shows how schematic representations are built from substantive input
- The difficulty of de-coupling acquisition from a usage-based system (constant adjustments of schematic forms, constant acquisition)
- The asymmetry implied in 'inheritance' makes most sense in models of parsimonious rather than redundant storage (the rule-list fallacy)

## Observations from the

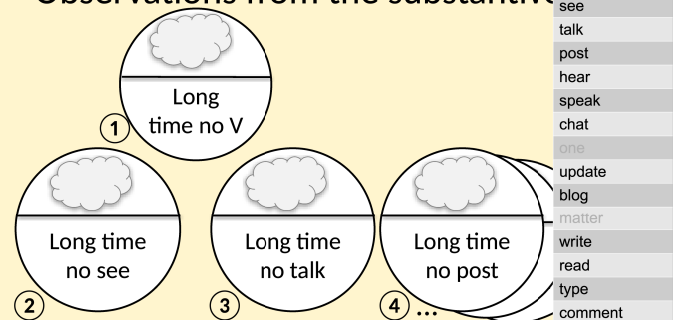
- set phrases



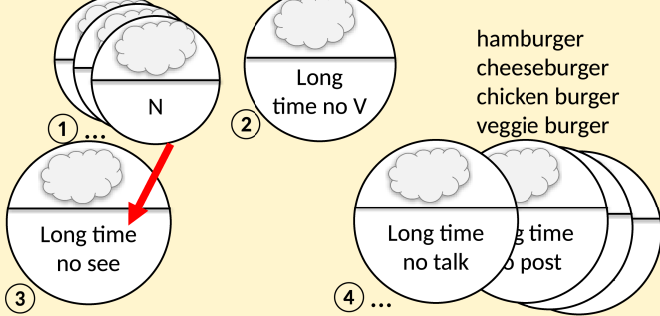
long time no	ferTenTen21 (52 billion words)
see	6,063
talk	690
post	525
hear	474
speak	394
chat	220
one	201
update	168
blog	105
matter	94
write	91
read	69
type	60
comment	47

cf also Rasulo (2010): 'language users employ a variety of modification strategies to extend the highly idiosyncratic fixed expressions beyond their original form and function, which means that lexically filled constructions yield themselves to productive generalizations regardless of the low-level schematichity.'

## Observations from the substantive

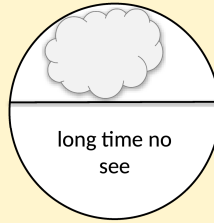


## Observations from the substantive end



## Observations from the substantive end

- set phrases
- Generalisations via (instantiation-)inheritance encourages proliferation of weighty schematic constructions
- Analogy via schematic construct more plausible



cf. Raszlic (2010); Wulff (2013); Langlotz (2006); Hampe and Schönfeld (2006); Moon (1998) and others

## Observations from the substantive end

### Welsh mutations, Welsh plurals

#### Mutations

'phonological (and corresponding spelling) changes that affect (predominantly) the initial consonant of a word. [...] the mutation system in Welsh [...] is one of the most complex found in any of the living Celtic languages'

All instances of the mutations in Welsh can be classified as either:  
(a) **contact mutations** – where a mutation of a word is 'triggered' by the word preceding. This involves a relatively small number of high-frequency words. They are listed below.  
(b) **grammatical mutations** – where the mutation is not 'triggered' by a particular word, but fulfils some grammatical function.' (King, 2003:16)

King (2003)

## Observations from the substantive end

### Welsh mutations, Welsh plurals

	Treigladd meddal	Treigladd trwynol	Treigladd llaes
p	b	mh	ph
t	d	nh	th
c	g	ngh	ch
b	f	m	
d	dd	n	
g	<disappears>	ng	
m	f	(mh)	
ll	l		
rh	r		
n		(nh)	King, 2003

Apply in certain constructions, e.g. after certain prepositions

Yn (in) + Caerdydd (Cardiff)  
→ yng Nghaerdydd

O (from) + Caerdydd (Cardiff)  
→ o Gaerdydd

But uncommon placenames abroad do not receive a mutation

## Observations from the substantive end

### Welsh mutations, Welsh plurals

	Treigladd meddal	Treigladd trwynol	Treigladd llaes
p	b	mh	ph
t	d	nh	th
c	g	ngh	ch
b	f	m	
d	dd	n	
g	<deleted>	ng	
m	f	(mh)	
ll	l		
rh	r		
n		(nh)	King, 2003

e.g. in certain verb forms

Indicative:  
**Wnest ti dechrau** (you started)

Interrogative:  
**Wnest ti dechrau?**

Negative:  
**Wnest ti ddim dechrau**

after definite article if gender = f  
Yn y gardd, yr ardd (the garden)

Adapted from Thorne (1993): List of different plural suffixes in Welsh.

Suffix	Sg.	Pl.	English	Welsh plurals
-au	llong	llongau	"ships"	Plural Suffixes
-iau	cadair	cadeiriau	"chairs"	
-od	llwynog	llwynogod	"foxes"	
-i	pêl	pelï	"balls"	
-on	awel	awelon	"breeze"	
-ion	gorwel	gorwelion	"horizons"	
-oedd	môr	moroedd	"seas"	
-ydd	afon	afonydd	"rivers"	
-edd	ewin	ewinedd	"nails"	
-ed	merch	merched	"girls"	
-aint	gof	gofaint	"blacksmiths"	
-iaid	estron	estroniaid	"foreigner"	

## Observations from the substantive end

### Welsh plurals

- Apart from suffixation, there are 7 more ways of forming plurals (Binks, 2017), e.g.

Closed set of nouns with singular formed from plural, collective/noun semantics, e.g. deletion; (sometimes with vowel change)  
sg. *mochym* [moxɨm] - pl. *moch* [mox] "pigs"  
sg. *coedion* [kɔɛdɨn] - pl. *coed* [kɔɛd] "trees"  
sg. *deilen* [dɛlɨn] - pl. *dail* [dail] "leaves"  
sg. *plentyn* [plɛntɨn] - pl. *plant* [plant] "children"

Vowel changes in combination with suffixation  
sg. *cadair* [kadair] - pl. *cadeiriau* [kadɛriaɪ] "chairs"  
Dedicated suffixes for singular and plural (+ vowel change or not)  
sg. *deigrŷn* [dɛgrɨn] - pl. *daigrŷnau* [daɪgrɨnau] "leaves"

Penultimate vowel or first and penultimate vowel change:  
sg. *castell* [kastɨl] - pl. *cestyll* [kestɨl] "castles"

Suppletion (unrelated form):  
sg. *ci* [ki] - pl. *cŵn* [ku:n] "dogs"

## Observations from the substantive end

### Welsh mutations and Welsh plurals

- Extremely complex paradigms make substantive storage likely
- evidence from language use that substantive forms are primary
- 'inheritance' places the emphasis in the wrong place
- 'inheritance' may have got the directionality wrong

## Conclusions

Is 'inheritance' a necessary/useful concept?

- 'inheritance' makes most sense in a parsimonious model
- given directional complexity, *generalisation* and *instantiation* appear more useful
- 'inheritance' places the weight in the wrong place (at the schematic end)
- 'inheritance' as predominant relation structuring the construction can lead to unhelpful modelling (e.g. relations like analogy must be given greater weight in explaining ad-hoc and more permanent constructs/constructions)

**No.**

## Thank you

Contact: [buerkiA@cardiff.ac.uk](mailto:buerkiA@cardiff.ac.uk)

Profile: <https://www.cardiff.ac.uk/people/view/148384-buerki-andreas>

## References

- Binks, H.L. (2017). *Investigating the bilingual 'catch-up' in Welsh-English bilingual teenagers*. PhD thesis, Bangor University
- Diessel, H. (2023). *The Construction*. Cambridge: CUP
- Goldberg, A. (1995). *Constructions: a Construction Grammar approach to argument structure*. Chicago: University of Chicago Press
- Goldberg, A. (2006). *Constructions at Work: the nature of generalisation in Language*. Oxford: OUP
- Goldberg, A. (2013). 'Constructionist Approaches' in Hoffmann and Trousdale (eds) *The Oxford Handbook of Construction Grammar*. Oxford: OUP
- Hampe, B. & D. Schönfeld (2006). 'Syntactic leaps or lexical variation? – More on creative syntax' in *Corpora in Cognitive Linguistics: Corpus-based Approaches to Syntax and Lexis*. Berlin: Mouton de Gruyter. 127-157.
- Hilbert, M. (2014). *Construction Grammar and its Application to English*. Edinburgh: EUP
- Hoffmann, Th. (2022). *Construction Grammar: the Structure of English*. Cambridge: CUP
- King, G. (2003). *Modern Welsh: a comprehensive grammar*. London: Routledge
- Rasulic, K. (2010). Long Time, No Buzz: Fixed Expressions as Constructional Frames. *Revue de l'Association Française de Linguistique Cognitive*. Vol. 5.
- Wulff, S. (2013). 'Words and idioms' in: Hoffmann and Trousdale (eds). 274–289.